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10/692,460

10/22/2003

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EXAMINER

CUMBERLEDGE, JERRY L

ART UNIT

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3733

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/692,460 | Applicant(s) BERREVOETS ET AL. | |
| | Examiner JERRY CUMBERLEDGE | Art Unit 3733 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 21-23 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-27 is/are allowed.
- 6) ☒ Claim(s) 1-20 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-20 and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin (US Pat. 5,545,167).

Lin discloses a connecting assembly for interconnecting spinal rods (Fig. 5) secured to spinal vertebrae, the connecting assembly comprising: a pair of spinal rod connecting devices (Fig. 5, ref. 210); a contact surface of each of the connecting devices for seating on one of the spinal rods (Fig. 5, inner surface of ref. 210); a locking member (Fig. 5, ref. 220) for being shifted between a clamped position with the locking member clamping the spinal rod against the contact surface and an unclamped position with the spinal rod released (Fig. 5, ref. 411)(Fig. 6); and a non-threaded rotatable actuator operable to shift the locking member between the clamped and unclamped positions (Fig. 5, ref. 400) , the non-threaded actuator member being configured to be rotatable by a predetermined rotary amount less than one full turn thereof to a predetermined locked position thereof corresponding to the clamped position of the locking member on the spinal rod (Fig. 5)(Fig. 6). The contact surface for seating on the spinal rod is an arcuate surface (Fig. 5). The locking member has an arcuate surface such that the arcuate surface is secured against the spinal rod when in the clamped

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position (Fig. 5). The actuator member is rotatable by about 80° to about 110° to the locked position thereof corresponding to the clamped position of the locking member (Fig. 5). The actuator member has an axis of rotation and the actuator member shifts axially along the axis of rotation during rotation of the actuator member about the axis of rotation to the locked position (Fig. 5).

Lin discloses a connecting assembly for interconnecting spinal rods secured to spinal vertebrae (Fig. 5), the connecting assembly comprising: a pair of spinal rod connecting devices (Fig. 5, ref. 210); a contact surface (Fig. 5, inner surface of ref. 210) of each of the connecting devices for seating on one of the spinal rods; a locking member (Fig. 5, left ref. 220) for being shifted between a clamped position with the locking member clamping the spinal rod against the contact surface and an unclamped position with the spinal rod released (Fig. 5)(Fig. 6); and a rotatable actuator (Fig. 5, ref. 400) operable to shift the locking member between the clamped and unclamped positions (Fig. 6), the actuator rotatable by a predetermined rotary amount to a locked position thereof corresponding to the clamped position of the locking member on the spinal rod (Fig. 5)(Fig. 6), wherein at least one spinal rod connecting device further includes a spring retention member (Fig. 5, right ref. 220)(Fig. 6) for biasing the locking member in the unclamped position. The spring retention member is compressed when the locking member is moved to the clamped position (Fig. 5)(Fig. 6, since refs. 220 are brought together). The spring retention member is a split ring (Fig. 5) located around the rotatable actuator member (Fig. 5), and the ring is compressed when the locking member is moved to the clamped position (Fig. 5)(Fig. 6). The rotatable actuator

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member has a recess (Fig. 5, ref. 430), and the recess is an annular channel.

Lin discloses a connecting assembly for interconnecting spinal rods secured to spinal vertebrae, the connecting assembly comprising: a pair of spinal rod connecting devices (Fig. 5, ref. 210) for being connected to a respective pair of spinal rods; a cross rod (Fig. 5, ref. 310') having opposite ends and a central longitudinal rod axis extending therebetween and being connected to a first one of the pair of spinal rod connecting devices at a first one of the opposite rod ends; a rod receiving member (Fig. 5, ref. 500) having a central longitudinal receiver axis and being connected to a second one of the pair of spinal rod connecting devices (Fig. 6), the rod receiving member including an internal bore (Fig. 5) oriented along the receiver axis and being configured for adjustably receiving a second one of the opposite rod ends so that the rod may be pivoted with respect to the receiver axis to provide the rod with variable angles relative thereto and so that the cross rod may be shifted axially along the rod axis to variable depths within the bore of the rod receiving member (Fig. 5); a clamp device for clamping against the cross rod received in the rod receiving member (Fig. 5, ref. 220); and a sleeve (Fig. 5, ref. 400) that extends about the rod receiving member and is shifted therealong for clamping the clamp device against the cross rod to fix the cross rod at an adjusted angle and an adjusted depth within the receiving member. The internal bore of the rod receiving member receives the cross rod such that the cross rod may be adjustably rotated in the rod receiving member around a longitudinal axis of the cross rod (Fig. 6). The clamp device may pivot to permit pivoting of the cross rod (Fig. 5)(Fig. 6). The clamp device includes an inner surface (Fig. 5) for mating with the external

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surface of the cross rod. At least a portion of the inner surface of the clamp device is arcuate for mating with the external surface of the cross rod (Fig. 5), and the cross rod may be rotatably adjusted relative to the clamp device (Fig. 5). The cross rod includes a protrusion (Fig. 5, e.g. ref. 320') for retaining the crossrod within the rod receiving member.

Lin discloses a connecting assembly for interconnecting spinal rods secured to spinal vertebrae, the connecting assembly comprising: a pair of spinal rod connecting devices for being connected to a respective pair of spinal rods (Fig. 5, ref. 210); a cross rod having opposite ends and a central longitudinal rod axis extending therebetween and being connected to a first one of the pair of spinal rod connecting devices at a first one of the opposite rod ends (Fig. 5, ref. 310'); a rod receiving member (Fig. 5, ref. 500) having a central longitudinal receiver axis (Fig. 5) and being connected to a second one of the pair of spinal rod connecting devices (Fig. 5)(Fig. 6), the rod receiving member including an internal bore (Fig. 5, ref. 430) oriented along the receiver axis and being configured for adjustably receiving a second one of the opposite rod ends so that the rod may be pivoted with respect to the receiver axis to provide the rod with variable angles relative thereto and so that the cross rod may be shifted axially along the rod axis to variable depths within the bore of the rod receiving member (Fig. 5); a clamp device for clamping against the cross rod received in the rod receiving member (Fig. 5, ref. 220); and a sleeve (Fig. 5, ref. 400) for clamping the clamp device against the cross rod to fix the cross rod at an adjusted angle and an adjusted depth within the receiving member wherein the sleeve includes an internal structure (Fig. 5, ref. 412) that imparts

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a compression force on the clamp device for securing the cross rod (Fig. 5)(Fig. 6). The rod receiving member includes a terminal surface (Fig. 5) for limiting the position of the clamp device. The clamp device is compressed between the terminal surface of the rod receiving member and the internal structure of the sleeve to secure the cross rod (Fig. 5)(Fig. 6). The internal structure of the sleeve contacts the clamp device directly (Fig. 6). The internal structure of the sleeve that contacts the clamp device includes a shoulder portion (Fig. 5, ref. 412).

Lin discloses a connecting assembly for interconnecting spinal rods secured to spinal vertebrae, the connecting assembly comprising: a pair of spinal rod connecting devices (Fig. 5, ref. 210) for being connected to a respective pair of spinal rods; a cross rod (Fig. 5, ref. 310') having opposite ends (Fig. 5) and a central longitudinal rod axis extending therebetween and being connected to a first one of the pair of spinal rod connecting devices at a first one of the opposite rod ends (Fig. 6); a rod receiving member (Fig. 5, ref. 500) having a central longitudinal receiver axis and being connected to a second one of the pair of spinal rod connecting devices (Fig. 6), the rod receiving member including an internal bore (Fig. 5) oriented along the receiver axis and being configured for adjustably receiving a second one of the opposite rod ends so that the rod may be pivoted with respect to the receiver axis to provide the rod with variable angles relative thereto and so that the cross rod may be shifted axially along the rod axis to variable depths within the bore of the rod receiving member (Fig. 5); a clamp device (Fig. 5, ref. 220) for clamping against the cross rod received in the rod receiving member; and a sleeve (Fig. 5, ref. 400) for clamping the clamp device against the cross

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rod to fix the cross rod at an adjusted angle and an adjusted depth within the receiving member wherein the sleeve is rotated to clamp the clamp device against the cross rod (Fig. 5)(Fig. 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US Pat. 5,545,167).

Lin discloses the claimed invention except for the rotatable actuator being located in a bore in the spinal rod connecting device, and the bore includes a pair of arcuate camming surfaces for camming against the rotatable actuator. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have placed the bore and camming surfaces in the connecting device and a portion of the rotatable actuator being located within the bore , since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Einstein, 8 USPQ 167.

Allowable Subject Matter

Claims 24-27 are allowed.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see attached PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JERRY CUMBERLEDGE whose telephone number is (571)272-2289. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eduardo Robert can be reached on (571) 272-4719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C./

Examiner, Art Unit 3733

/Eduardo C. Robert/

Supervisory Patent Examiner, Art Unit 3733